

REMARKS

Claim 1 has been amended to recite that the fluorine-containing resin coating composition is a coating composition of a tetrafluoroethylene resin having hydroxyl group and containing a tetrafluoroethylene unit in an amount of not less than 39.4 % by weight, or a coating composition of a chlorotrifluoroethylene resin having hydroxyl group and containing a chlorotrifluoroethylene unit in an amount of not less than 51 % by weight.

New claims 20 and 21 presented for examination recite that the fluorine-containing monomer unit composing the tetrafluoroethylene resin having hydroxyl group consists of tetrafluoroethylene unit, whereas claim 21 recites that the fluorine-containing monomer unit composing a chlorotrifluoroethylene resin having hydroxyl group consists of chlorotrifluoroethylene unit.

Claim 22 further characterizes the fluorine-containing resin coating composition, and recites that the tetrafluoroethylene resin having hydroxyl group contains the tetrafluoroethylene unit in an amount of 39.4 to 46 % by weight, and that the chlorotrifluoroethylene resin having hydroxyl group contains the chlorotrifluoroethylene unit in an amount of 51 to 61 % by weight.

Support for the amendments to the claims relating to tetrafluoroethylene unit content and chlorotrifluoroethylene resin content is found by reference to the working examples of the specification as originally filed, together with documentary evidence submitted herewith and listed below.

1: Mitsuhiro OKAMOTO and Akira OMORI, "KOUKYOU TOSOU", Vol. 21, No. 4, pp. 54-59 (Dec. 1993)

2: JP10-88010 published on April 7, 1998

3: Hitoshi MATSUO, "SHINSOZAI", July, 1993, pp. 33-36

4: 'Lumiflon':* A Novel Fluoropolymer Resin for Durable High Performance Coatings, by W.R. Symes and J.H. Conti-Ramsden, (name of literature and published date are unknown)

The working examples of the specification employ either a ZEFFLE series fluorine-containing resin (GK-500, GK-510 or GK-550), which is a tetrafluoroethylene resin having hydroxyl group; or LUMIFLON LF-200 as a chlorotrifluoroethylene resin having hydroxyl group.

ZEFFLE SERIES RESINS

Documents 1 and 2 above describe that there are three types of fluorine-containing coating resins, namely, vinylidene fluoride type (VdF-type = 2F-type), chlorotrifluoroethylene type (CTFE-type = 3F-type) and tetrafluoroethylene type (TFE-type = 4F-type).

As shown in Document 2 ([0048]), ZEFFLE series resins are tetrafluoro(4F)-type resins, i.e., tetrafluoroethylene(TFE)-type resins, of the Assignee, DAIKIN INDUSTRIES, LTD.

Further, Document 1 (Table 1) shows that the tetrafluoro-type fluorine-containing resins for coatings developed by DAIKIN contain fluorine in an amount of 30-35 wt%. Because the fluorine content of the homopolymer of tetrafluoroethylene (TFE) is 76 wt%, the ZEFFLE series resins having a fluorine content of 30 to 35 wt% contain TFE unit in an amount of 39.4(=30/0.76) to 46(=35/0.76) wt%.

LUMIFLON RESIN

The description as to "(1) Room-curing type fluorine-containing resins for coatings" of Document 1 states that conventional room-curing type fluorine-containing resins for coatings are all chlorotrifluoroethylene-type resins, and the description in [0048] of Document 2 states that the LUMIFLON resin series of Asahi Glass are trifluoro(3F)-type, i.e., chlorotrifluoroethylene type resins. These descriptions show that LUMIFLON does not contain vinylidene fluoride (2F) unit. This is also supported by Fig. 1 of Document 3 and Fig. 1 of Document 4.

Table 4 of Document 3 and Table 1 of Document 4 further show that LUMIFLON contains fluorine at an amount of 25-30 wt %. Because the fluorine content of the homopolymer of chlorotrifluoroethylene (CTFE) is 49 wt%, the LUMIFLON series resins having a fluorine content of 25 to 30 wt% contain CTFE unit in an amount of 51(=25/0.49) to 61(=30/0.49) wt%.

Review and reconsideration on the merits are requested.

Claims 1-5, 9, 11, 15 and 19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,229,461 to Saitoh et al. in view of U.S. Patent No. 4,295,976 to Dessaint et al. The grounds for rejection remain the same as set forth in the previous Office Action.

In this regard, the Examiner considered that claim 1, given its broadest reasonable interpretation in view of the specification bridging pages 7-8, requires no more than a resin containing not less than 20 mol % of TFE or CTFE units. Because the copolymer of Saitoh et al. may contain up to 30 mol % of TFE or CTFE, the Examiner did not consider claim 1 (as previously amended to recite that the resin coating composition is a TFE resin coating

composition having hydroxyl group or a CTFE resin coating composition having hydroxyl group) to exclude the copolymer of Saitoh et al.

In response, claim 1 has been amended to recite that the fluorine-resin coating composition is a coating composition of a tetrafluoroethylene resin having hydroxyl group and containing a tetrafluoroethylene unit in an amount of not less than 39.4 % by weight, or a chlorotrifluoroethylene resin having hydroxyl group and containing a chlorotrifluoroethylene unit in an amount of not less than 51 % by weight. It is believed that claim 1 as amended herein patentably distinguishes over Saitoh et al.

Further, there is no disclosure in Saitoh et al. or Dessaint et al. which would teach, suggest or otherwise motivate one of ordinary skill to increase the TFE or the CTFE content of the resin beyond 30 mol % (column 2, lines 17-47 of Saitoh et al.).

Withdrawal of all rejections and allowance of claims 1-5, 9, 11, 15 and 19-22 is earnestly solicited.

In the event that the Examiner believes that it may be helpful to advance the prosecution of this application, the Examiner is invited to contact the undersigned at the local Washington, D.C. telephone number indicated below.

AMENDMENT UNDER 37 C.F.R. § 1.114(c)
U.S. Application No. 09/762,441

Q63016

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Respectfully submitted,



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CUSTOMER NUMBER

Date: January 30, 2006